

STONE AGE NEW ENGLAND:
10,000 YEARS OF HISTORY

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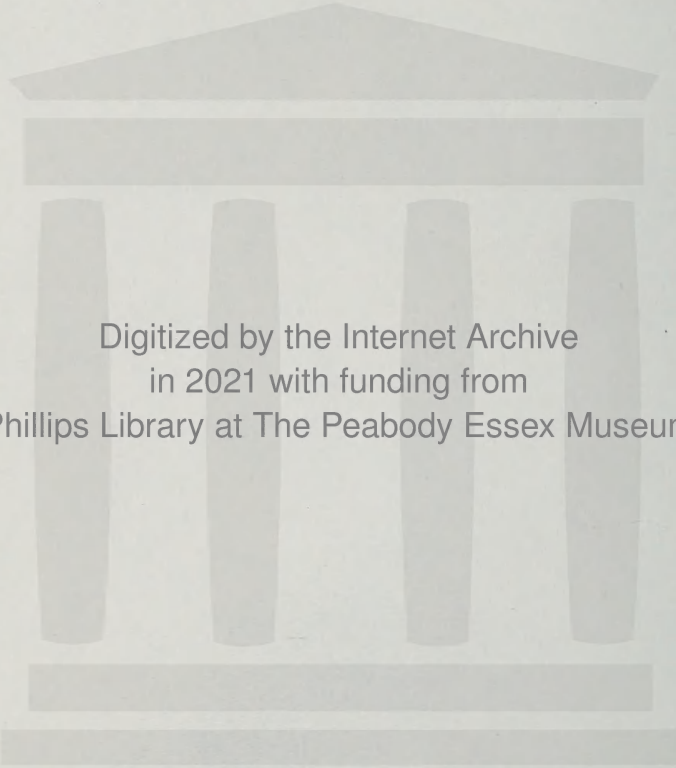
STONE AGE NEW ENGLAND: 10,000 YEARS OF HISTORY

An Exhibit at the Peabody Museum of Salem
October 1, 1975 through May 1, 1976

Peter Fetchko
John Grimes
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and
Illustrated by Sandra Belock

*Cover Design based on a bear effigy found at the
corner of Boston and Essex Streets, Salem, in 1830.*

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ACKNOWLEDGEMENTS

Sincere appreciation is expressed by the authors to Dr. Dena F. Dincauze of the University of Massachusetts, upon whose published works much of this catalogue has been based, and to William Eldridge, one of the discoverers and excavators of Bull Brook, for much direction and assistance. Selected artifacts in the exhibit were kindly lent by The Robert S. Peabody Foundation, Andover, The Peabody Museum of Archaeology and Ethnology, Cambridge, The Josiah Bartlett Museum, Amesbury, and by private individuals: Howard Sargent, George Seaton, Frank Vaccaro, Nicola Vaccaro, Antonio Vaccaro, Clifford Corliss, William Paisley, Mr. and Mrs. George Berry and Mr. and Mrs. Norman Taylor. Special thanks to Mrs. James N. Krebs and to the staff of the Peabody Museum of Salem, especially Lucy Bishop, Frank Duley, Mrs. Robert U. Ingalls and Geraldine Ayers for their assistance in the preparation of the exhibit; also to Mark Sexton for photography and Elizabeth Pollock for graphics and cartography. Finally, we would like to thank the Trustees of the Peabody Museum of Salem for making this publication possible, and to Mr. Russell Knight and Dr. Richard MacNeish of the Robert S. Peabody Foundation for their sponsorship of the radiocarbon dates from the Saugus Quarry Site.

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PREFACE

The format of this catalogue divides cultural periods and associated artifacts into distinct traditions. The result is a model by which much confusing and often conflicting information can be presented in an understandable and relatively uncomplicated form. The picture of New England's prehistory that this procedure creates is limited. The lines that separate artifact types and cultural evolution becomes a continuum when such factors as regional population variations, time lag of diffusing traits and mixing of different traditions and tool types are taken into account. Thus the difficulty of capsulizing an accurate discussion of Northeastern prehistory into a format such as this is great, and a number of interesting and important cultural traits are only touched upon.

The comparative recentness of any serious field work in New England makes the evaluation of many of the findings difficult, and the reader is invited to pursue any of the literature listed in the bibliography for more detailed treatment of specific topics.

As a final word of caution it should be said that the amount of useful information which a site yields is always proportionate to the care with which it is excavated. Each site is unique, with the potential to solve a number of problems relevant to today's society. Seldom is anything of lasting significance obtained through the intentional or unintentional destruction of a site by collectors or those unfamiliar with archaeological methods.

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INTRODUCTION

The archaeological collections of the Peabody Museum of Salem were started at the beginning of the 19th century, years before other major American museums were founded. These first collections were amassed not by archaeologists, but predominantly by Salem sea captains and professional men. The names of John Derby, Benjamin Ropes and Dr. William Bentley, associated with gifts of archaeological material, are scattered throughout the 1821 printed catalogue of the East India Marine Society. The Society, founded in 1799, was the institution of which the Peabody Museum is heir. The ship captain members of this society sailed to many exotic areas of the world in the course of New England's developing trade in the late 18th and early 19th centuries. Through contact with such places as New Guinea, Tierra del Fuego, and Africa, these captains and their crews brought back to Salem tales of distant regions and the peoples who inhabited them. This contact introduced them to pre-metal cultures and cultures only recently introduced to metal. Although similar cultures in Massachusetts had vanished some 150 to 200 years before, a familiarity with contemporary stone and early metal-using peoples sparked their interest in the many stone artifacts then being turned up in Salem and other areas of New England. Such objects as the "stone gouge found on Gallows Hill, Salem," number 305 in the 1821 catalogue, given by Benjamin Ropes, and the stone knife of Maine jasper given in 1800 by John Derby reflect this interest in the opening years of the 19th century. *Plate 1.*



However, at this time the collecting of archaeological material was not the major interest of the members of the East India Marine Society, who were essentially maritime antiquarians with a bent for "natural and artificial curiosities." In 1867, as the result of the philanthropy of George Peabody and the consequent change of name to the Peabody Academy of Science, the institution received for its director, Frederick W. Putnam, who has been called, "father of American archaeology." Putnam, who was born in Salem and received his initial training at The Essex Institute, also worked for Louis Agassiz at the Museum of Comparative Zoology at Harvard. It was there

Plate 1. One of two "spearheads" given by John Derby in 1801 and listed in the 1821 catalogue of the East India Marine Society, number 687. This and other similar pieces collected in the late 18th and early 19th century were the beginnings from which the present museum's collection grew.

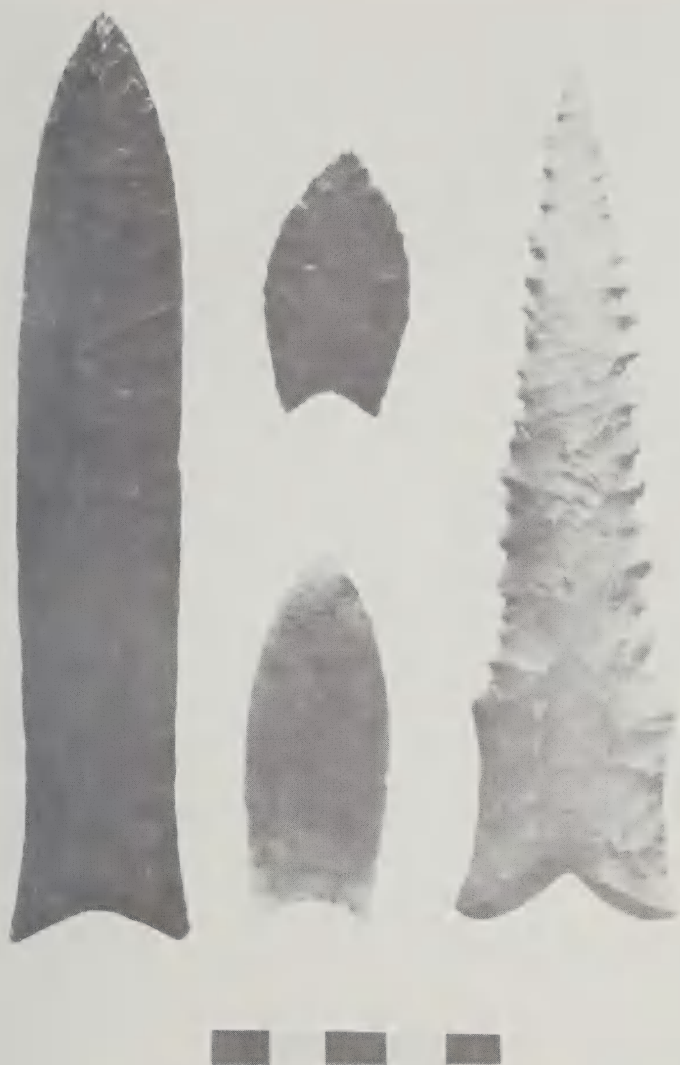


Plate 2. North American Paleo-Indian point varieties: Left - Cumberland point typical of those of the Ohio River Valley. Top Center - "Pumpkin Seed" type usually associated with late Paleo-Indian sites. Bottom Center - Folsomoid point, a principally southwestern type frequently associated with extinct Bison remains. Right - Dalton point, a later Clovis variant. All of these exhibit the central fluting diagnostic of Paleo-Indian projectile points. Courtesy of Mr. George Seaton.

that he met Edward Sylvester Morse. Morse, famous for his Japanese Ethnographic Collection at the Peabody Museum of Salem, and also for his work on Japanese ceramics, became director after Putnam. Both men were naturalists whose interests gradually broadened while at Salem, and it was here that Putnam's interest in archaeology flourished. Morse was an early supporter of Darwin's Theory of Evolution and used the changes he observed in the shell form of the Moon Snail (Lunatia heros) and common soft shell clam (Mya arenaria) to support the theory. The shells he used were from stratified Indian shell middens in Salem and Maine. Apparently both Morse and Putnam were initially more interested in the shells in the shell heaps than the artifacts which the middens contained. However, their interests gradually shifted and one can see in their collecting and notes a deepening interest in Indian artifacts.

The inspiration for Morse's internationally renowned work on Japanese ceramics probably also had its origin in the shell heaps, if one can judge by his careful preservation of countless sherds of Indian pottery recovered from them. In 1877, while on his first trip to Japan, Morse pointed out the significance of shell mounds that he noticed at Omari to the Japanese. For this and his subsequent excavations and publications he is acclaimed in Japan as, "the father of Japanese archaeology." Through the influence of Putnam and Morse the museum developed new standards of scholarship and technique, as well as a greatly increased mass of archaeological material, which today makes much of the museum's collection unique.



ORIGINS

The most generally accepted hypothesis concerning the origin of the American Indian is that they are the descendants of Siberian hunters who crossed a late Pleistocene land bridge between Asia and Alaska, at a time when continental glaciation had considerably decreased world wide sea level. In the area of what is now the Bering Sea, the reduced sea level exposed the transcontinental area known to geologists as Beringia. *Figure 1*. Following Pleistocene fauna across the newly-created tundra, these hunters were soon led into the North American continent via Alaska and the Canadian Yukon. Incomplete archaeological evidence renders it impossible to determine during which of the several rhythmic climatic fluctuations these people entered the New World, but present findings in Alaska and South America indicate an initial entry around 28,000 years ago. The possibility of earlier human migrations into the North American continent is as yet unsubstantiated. However, it is likely that some of the evidence that may have existed was either confined to coastal regions, therefore inundated by the rising sea level, or was destroyed by subsequent glaciation.

It is certain, however, that early Paleo-Indian hunters had reached the Great Plains by 13,000 B.C. and Nova Scotia and the southernmost tip of South America by 9,000 B.C. Extensive grass and parkland, then covering most of unglaciated North America, supported large numbers of now extinct camel, horse, mastodon, mammoth, and bison; game which these hunters pursued as they had when crossing Beringia.

The hallmark of the Paleo-Indian period is the fluted point, a unique American invention found throughout this continent and nowhere else in the world. Clovis fluted points, representative of extinct elephant hunters, are widespread, as are many other point forms, representative of late Paleo-Indian bison hunters, which begin to show the diversifying effects of environmental change and cultural isolation.

Plate 2.

Figure 1 (at left). During much of the Pleistocene, the broad subcontinent between Siberia and Alaska called Beringia was exposed by greatly lowered sea level. The first Americans crossed over dry, frozen tundra following migrations of several big game species during one of the rhythmic fluctuations of sea level. There were two major periods when Beringia was open to human and faunal migrations. One period occurred between 11,000 and 9,000 B.C. and the other, with one brief inundation at 23,000 B.C., was between 33,000 and 13,000 B.C.



*Fluted Clovis Point
of Saugus Jasper from
the Saugus Quarry Site.*

THE PALEO-INDIAN PERIOD

10,000 - 7,500 B.C.

Following the retreat of the last glacial advance from southern New England some 13,500 years ago, gradual biotic succession resulted in mid-latitude tundra and subsequently a spruce-lichen parkland, which dominated in Massachusetts until about 7,500 B.C. As the ice retreated, Pleistocene fauna such as mammoth, mastodon, giant beaver and caribou ranged throughout the area as well as on the exposed Continental Shelf. In close pursuit of this game, human populations in groups of 30 to 100 individuals entered the area now known as New England between 10,000 and 9,000 B.C. They are known to archaeologists as Paleo-Indians, a term first used to describe evidence for late Pleistocene human populations in the high plains of the western United States. Western remains were frequently kill sites, in which lithic tool assemblages were found in association with the remains of now extinct Pleistocene fauna such as the mammoth, mastodon and several bison species. In contrast to the western sites, most eastern sites show evidence of habitation, but contain little or no faunal remains. Some archaeologists have used this negative evidence, as well as what may be slightly more recent temporal span, as justification for the assumption that Eastern Paleo-Indians hunted only caribou and other small game. There is, however, no reason for assuming that either population hunted one form to the exclusion of others. If, as evidence indicates, mastodons were in New England until 6,000 B.C., it is then likely that mastodon and mammoth were also part of the Eastern Paleo-Indian food supply. The functionally adapted fluted point characteristic of both Eastern and Western Paleo-Indians is very similar and indicates a basic cultural continuity between the two areas. *Plate 3.* Mastodon and mammoth remains are occasionally found in New England. The incompletely excavated and undated skeleton of a mastodon was found in Ipswich less than four miles from Bull Brook, one of the most famous of the Eastern Paleo-Indian sites. Mammoth teeth are also occasionally found by fishermen off the coast of New England. One such specimen was recently recovered by Mr. George Berry in 180 feet of water, five miles southeast of Halfway rock. *Figure 2.*

The Paleo-Indian component of Bull Brook was discovered in 1950 by William Eldridge, Joseph, Frank, Nicola, and Tony Vaccaro. Their first find was a fluted point which they recognized as a Paleo-Indian Clovis point. This particular point, as well as other artifacts from the site, were made from exotic flints for which no local source is known. It is believed the material is from quarries in Ohio, Pennsylvania, and New York and may indicate the directions from which those

early populations entered New England. In addition to the fluted point, a variety of small, finely-chipped stone tools are also associated with Paleo-Indian sites. These consist of various scraper forms, graters, drills and knives. *Plate 4*. No bone artifacts have survived in the highly acidic soil of the east, although they have been recovered in western sites. The most interesting form is a bi-pointed bone or ivory cylinder believed to be the foreshaft to which the fluted point was attached. *Figure 3*.

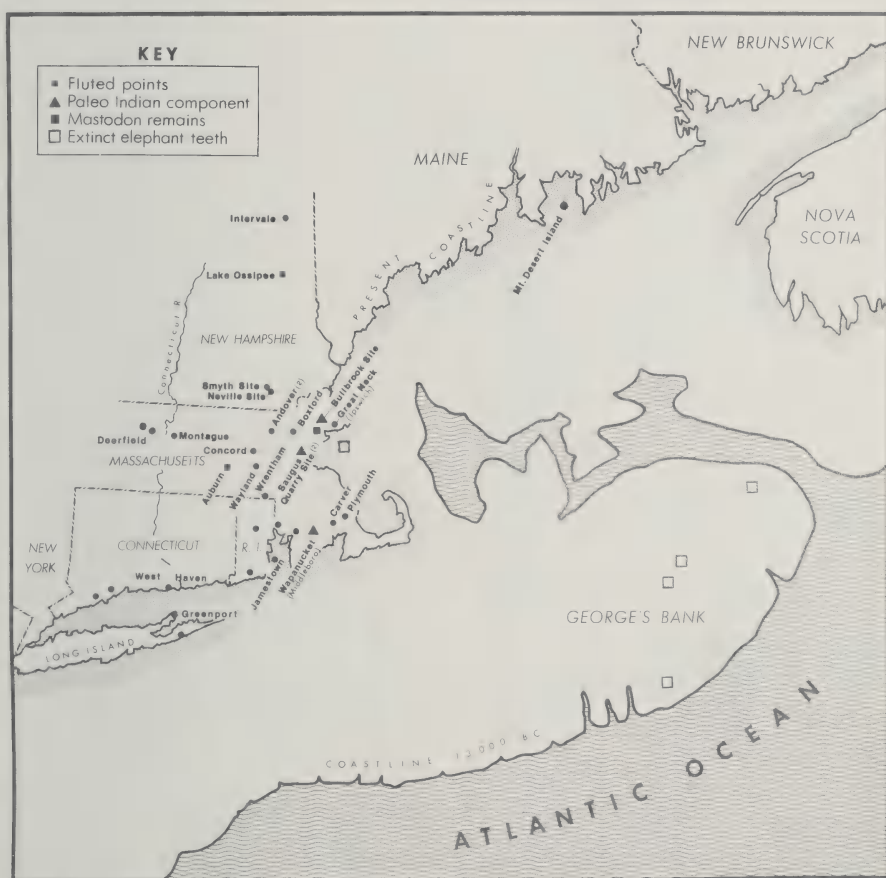


Figure 2. Partial distribution of fluted point finds and extinct elephant remains in New England.

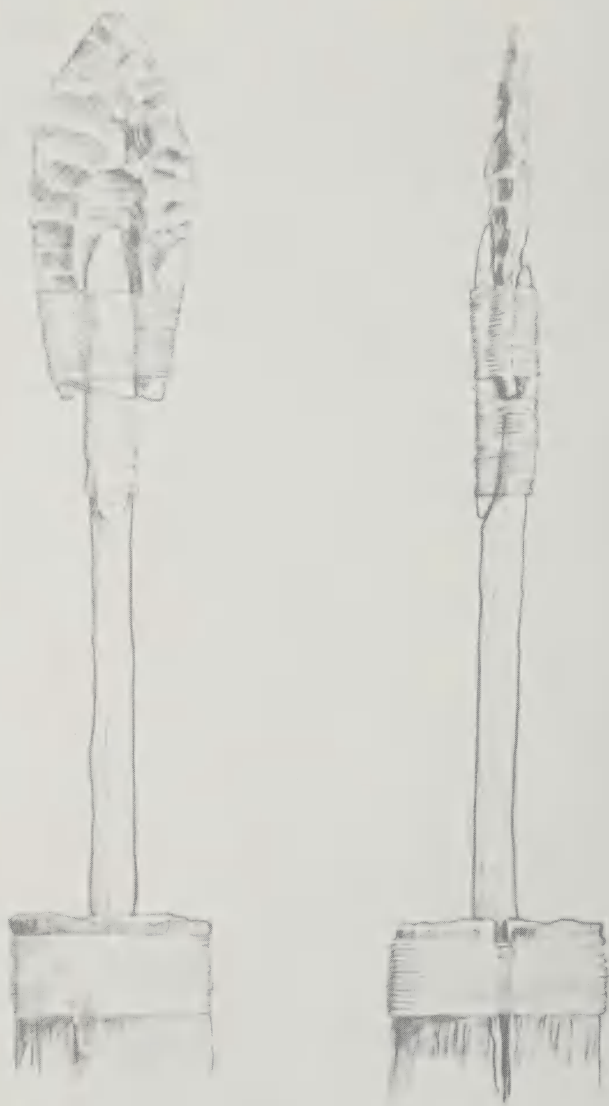


Figure 3. Hypothetical reconstruction of the method of hafting fluted points. Bipointed bone cylinders occasionally found in western kill sites may have been used as foreshafts for spears which were either hand-held or possibly thrown with an atlatl.

One of the rarest of the tool types found at Bull Brook and reported at a few other sites is the twist drill. Occurring in several forms, the fluted and expanded-base twist drills are the most rare. The twist drill receives its name from its unique and very efficient cutting edge, which is similar in concept to the modern high speed drill bit. It is not known why this invention, which preceded the modern twist drill by over 7,000 years, was lost to the later Indians. *Figure 4.*

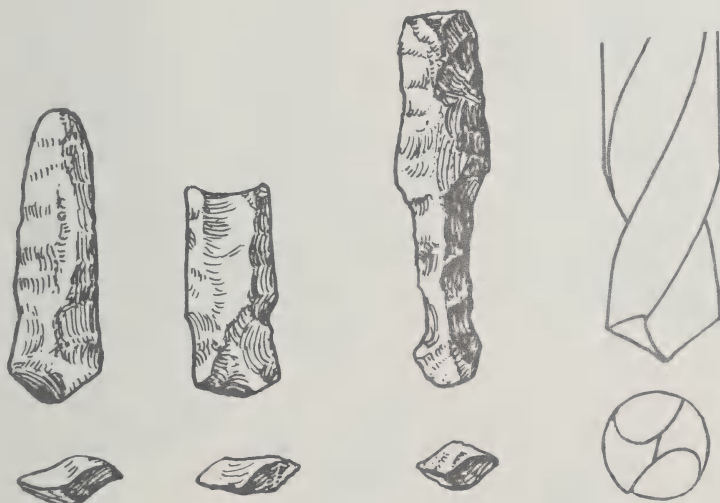


Figure 4. Twist drills excavated at the Bull Brook Site with a modern drill bit for comparison of the cutting edges. Left to Right - Tapered Base Drill - Fluted Drill and Expanding-base Drill.



Plate 3. Fluted Paleo-Indian points from various northeastern localities: 1. Eagle Hill, Ipswich, Massachusetts, 2. Paisley Farm, West Boxford, Massachusetts, 3. New York State, 4. Andover, Massachusetts, 5. Saugus Quarry Site, Saugus, Massachusetts, 6. York County, Maine, 7. Pennsylvania, 8. Bull Brook Site, Ipswich, Massachusetts, 9. York County, Maine. These points have been loaned through the courtesy of: 1. Antonio Vaccaro, 2. William Paisley, 3. George Seaton, 4. Nicola Vaccaro, 5. George Seaton, 6. Anonymous loan, 7. George Seaton, 8. William Eldridge, 9. Anonymous loan.

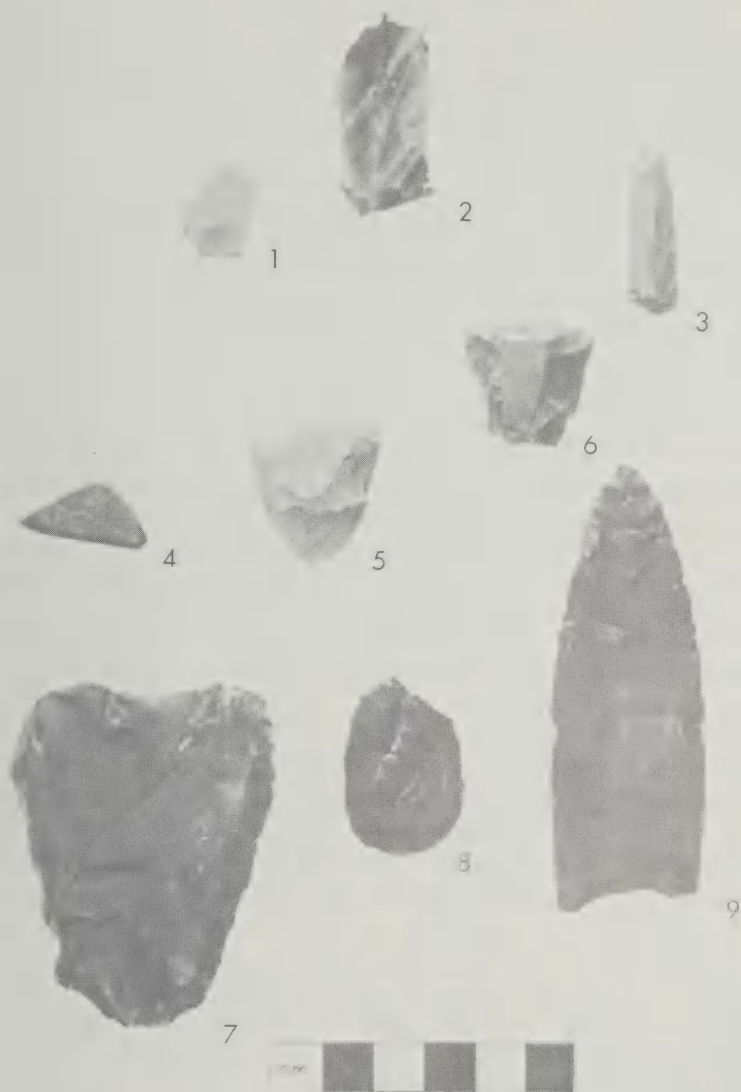


Plate 4. Selected artifacts from the Bull Brook Site in Ipswich, Massachusetts:
1. Graver, 2. Graver, 3. Tapered base twist drill, 4. Plumbago (graphite), 5. End scraper, 6. End scraper, 7. Unifacially chipped knife, 8. Side scraper, 9. Clovis fluted point. All tools are of exotic cherts except the Plumbago and the Twist Drill, which is a cast of an excavated artifact.



*Bifurcated Base Point
from Gloucester,
Massachusetts*

THE ARCHAIC PERIOD

The Early Archaic - 7,500 to 6,000 B.C.

During the Early Archaic period mixed pine and hardwood forests, now characteristic of northern Maine, dominated southern New England. Little is known of cultures of this period, but it is believed that ecological changes in the environ-

ment prompted a reliance on a greater diversity of food resources, particularly small game. This was brought about by the gradual extinction of the Pleistocene mega-fauna and an increased variety of plant resources concurrent with a gradual warming as the ice sheet continued to retreat northward. It has been suggested by some archaeologists that the extinction of Pleistocene fauna may in part have been due to the agency of man, whose efficient hunting methods led to their demise.

The undisputed cultural artifact belonging to the Early Archaic is a point with a bifurcated base. Dated, stratified northeastern sites with a bifurcate component have been found in New York. In New England specimens are relatively rare and usually occur as surface finds as a result of agricultural activity. Points of still rarer variety, only very occasionally reported in New England, are those belonging to the Plano tradition. In technique of manufacture they are very similar to the fluted points except that they lack the flute. In the west the Plano tradition is dated between 6,000 and 9,000 B.C. and is often associated with extinct bison remains. It is thought to have developed directly out of the Paleo-Indian tradition. *Plate 5.*

In the east it is difficult to establish a definite transition from the closely related Paleo and Plano traditions to that of the Early Archaic. On Staten Island, bordering southern New England, sites of this Paleo-Archaic transitional period have been excavated and include artifacts characteristic of both periods located in a single stratigraphic horizon. Paleo end and side scrapers, flake tools, and knives occur with archaic

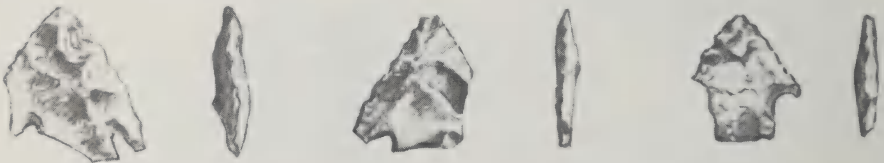


Figure 5. Eva Points excavated at the Saugus Quarry Site. These and other artifacts such as choppers and finely chipped scrapers and flake tools are representative of Paleo-Archaic transitional sites previously unreported north of Staten Island, New York.

bifurcate-base points, Eva points, choppers and roughly chipped celts with ground bits. Possibly the weighted spear thrower or atlatl came into use at this time. The atlatl and the process of grinding stone were technological innovations reflecting dramatic cultural evolution. The Saugus Quarry site, currently under excavation by George Seaton and the authors, bears some resemblances to those sites in coastal New York. The presence of Eva points, choppers, scrapers, knives, and flake tools, as well as a radiocarbon date of 6,145 B.C. indicate occupation during the same period. *Figure 5.* A fluted point reflecting a Paleo-Indian component at the site was also found. Here, in this post-Paleo period of transition much archaeological work is still required in order to clarify the origins of the Archaic cultures to follow.



Plate 5. Early Archaic points: Top two rows: Bifurcated base points. Left to right - Ipswich, Massachusetts, Lake Winnepesaukee, New Hampshire, Ipswich, Massachusetts, Ipswich, Massachusetts, Gloucester, Massachusetts, Wakefield, Massachusetts, Danvers, Massachusetts. Bottom row: left - Scottsbluff Plano point of New York chert from Nichols, New York, right - Eden Plano point from Hamilton, Massachusetts.

THE MIDDLE ARCHAIC PERIOD

6,000 - 3,000 B.C.



*Grooved axe from
Wakefield, Massachusetts*

With continuing climatic warming and an expanded range of oak trees, a mixed pine-oak forest succeeded by a more temperate oak-hemlock forest developed in southern New England between 6,000 and 4,000 B.C. Following the spread of oak forest habitats deer and wild turkey migrated northward with other temperate flora and fauna. During this time modern seasonal migration patterns of birds and fish were established and rich estuarine habitats developed. Sites during this period become more numerous, larger, and occur in more varied locations. There is, however, a definite preference in site location for a close proximity to lakes, rivers, and bogs which suggests an orientation toward seasonally rich resources, such as spawning runs of fish, and spring and fall bird migrations. The coastline of this period is now below sea level and therefore many sites which may have clarified this conception of Middle Archaic cultures are lost to investigation.

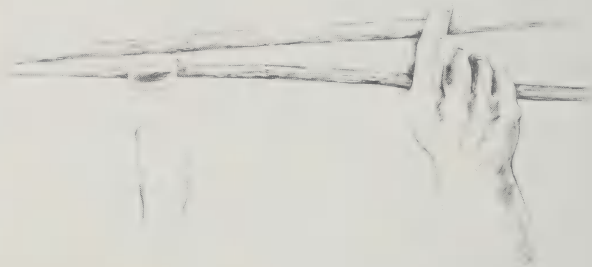


Figure 6. Hypothetical reconstruction of atlatl. The function of the atlatl weight may not have been to add extra force to the throw of the spear, but to counter-balance its extended forward end.



Figure 7. Excavations of sites in Kentucky yielded burials containing antler or bone hooks (A) associated with drilled, ground stone atlatl weights (B). Their alignment has led archaeologists to believe that these were components of a throwing stick or atlatl.

At 5,700 B.C. there existed one basic cultural pattern present from South Carolina to New England. The Neville complex of southern New England is the Middle Archaic representation of this widely distributed cultural pattern. The Neville complex was succeeded by or developed into a closely related Stark complex of 5,000 – 4,000 B.C. During this period the technological advance of pecking, grinding and polishing stone was further developed and grooved axes, semi-lunar knives and true atlatl weights occur. *Plate 6, Figure 6, Figure 7.* The projectile points of this period are the Neville point with its slightly concave base, possibly reflecting the bifurcated base of the Early Archaic, and the Stark and Merrimac points occurring somewhat later. *Plate 7.*

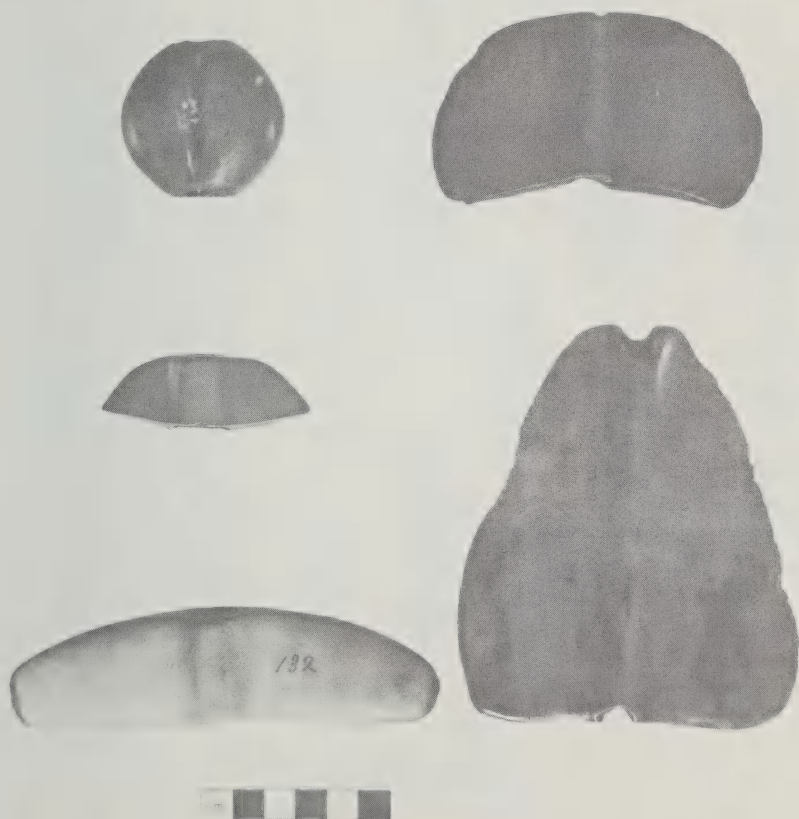


Plate 6. Ground stone atlatl weights were once known as "banner stones" and thought to have been amulets or markers of rank. Drilled, polished varieties are known from the Middle and Late Archaic periods, although cruder varieties may have been present before this.



Plate 7. Middle Archaic points from New England: Top row: Neville points, Middle row: Stark points, Bottom row: Merrimac points.



Plate 8. Points of Small Stemmed point Tradition: Top row: Squibnocket Stemmed points, Second row: Squibnocket Triangular points, Third row: Bear Creek points, Bottom row: Wading River points.



*Barbed bone point
from Maine*

LATE ARCHAIC PERIOD

3,000 - 500 B.C.

By 5,000 years ago climatic warming was near its maximum and oak-hickory forests became the climax vegetation of southern New England. This forest form supported vast populations of deer, turkey and bear.

Three distinct cultural traditions become established in New England at this time:

The Small Stemmed Point Tradition:

This tradition developed from Middle Archaic predecessors. Sites of this tradition tend to be found along river water sheds where exploitation of seed resources and locally abundant fish and game allowed the development of a central-based wandering settlement pattern with lake-side winter villages which dispersed into small spring and summer groups. Several projectile point types are associated with the small stemmed point tradition. They are Squibnocket stemmed, Squibnocket triangular, Wading River and Bear Swamp points. *Plate 8.* Shallow gouges, plano-convex adzes and pestles, a seed grinding implement, appear at this time. The central-based settlement pattern is a definite evolutionary advance over the free-wandering pattern which probably existed during the Paleo-Indian period, in which small populations followed what may have been an unexploited game supply. During the Early and Middle Archaic a restricted wandering pattern probably developed. Seasonably abundant supplies of acorns and other seed foods as well as of migrating birds and spawning fish necessitated a seasonal change of habitation within a restricted geographical range. The central-based settlement pattern suggests a further development of territoriality. Rich, abundant resources allowed the establishment of semi-permanent winter villages with dispersal into smaller groups only during the periods of relative scarcity in spring and summer.

Susquehanna Tradition: *Plate 9, Plate 10.*

Derived from predecessors originating in the Middle Atlantic states, this tradition was characterized by broad, corner-removed points. The Atlantic point appears to be the first to become established in the coastal lowlands of New England. Susquehanna broad points, as well as Mansion Inn blades and Wayland notched points occur later. The latter two types are found frequently as grave offerings in cremation cemeteries and were part of an elaborate mortuary ceremonialism which developed early in the Susquehanna tradition.



Plate 9. *Susquehanna Tradition point types: Top row: Atlantic Blades used as knives and projectile points, Middle row: Susquehanna Broad points, Bottom row: left to right: 3 Mansion Inn Blades and 2 large Wayland Notched points.*

Brewerton Tradition: Plate 11, Plate 12.

This tradition is characterized by Brewerton-eared-notched and Brewerton-eared-triangle projectile points. It is distributed thinly throughout southern New England, but shows a greater concentration away from the coast, suggesting a specialized small game hunting pattern of small mobile bands, better adapted to the ecologically poorer uplands of the interior. Originating in the area to the north and west, Brewerton-related peoples brought to northern New England, especially Maine,

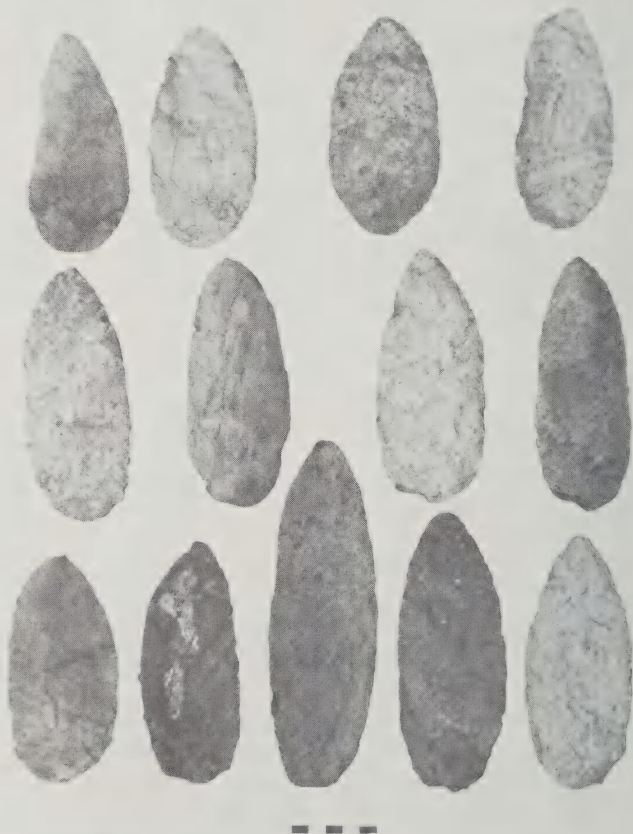


Plate 10. Cache of blades found on Marblehead Neck ca. 1920. Made of Marblehead felsite from the quarry at Castle Rock. Typically, finished points were not made at quarry sites, but instead large flakes were shaped into easily transportable preforms and were shaped into completed forms elsewhere. Preform style changes through time, as do projectile points, and can sometimes be attributed to a particular culture. These may date from the Late Archaic Susquehanna Tradition. Courtesy of Mr. and Mrs. Norman Taylor.

Newfoundland, and the Maritime Provinces, a specialized mortuary cultism characterized by inhumation and the frequent inclusion of red ochre and ground stone knives, points, adzes, gouges, and plummets. Because red ochre cemeteries are so distinct in northern New England, cultures of this region are often referred to as Red Paint Peoples, although similar use of pigments, especially red, was widespread throughout many regions of North America.

Copper artifacts, which occasionally have been excavated and occur in collections, probably represent an eastern trade extension of what, in the Lake Superior Region, is known as the Old Copper Culture.

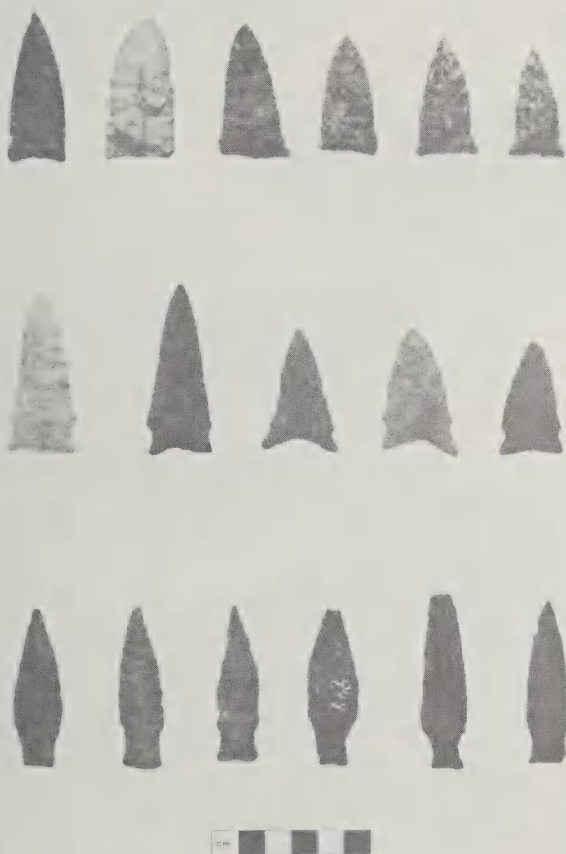


Plate 11. Late Archaic: Brewerton Tradition: Top row: Brewerton-eared points, Middle row: Brewerton-eared Notched points, Bottom row: Orient Fishtail points of the Transitional stage.

Beginning in the Late Archaic there was intensive exploitation of coastal and shoreline food supplies as evidenced by the continuous accumulation of large shell middens in which many aquatic and small game species are represented. Barbed bone points, harpoon heads and fish hooks, as well as small stone plummets, suggest spearing of large fish and sea mammals and angling with hook and line. *Figure 8.* Fish weir stakes, some found under the Back Bay in Boston, and associated with the small stemmed point tradition, indicate extensive exploitation by relatively large populations.

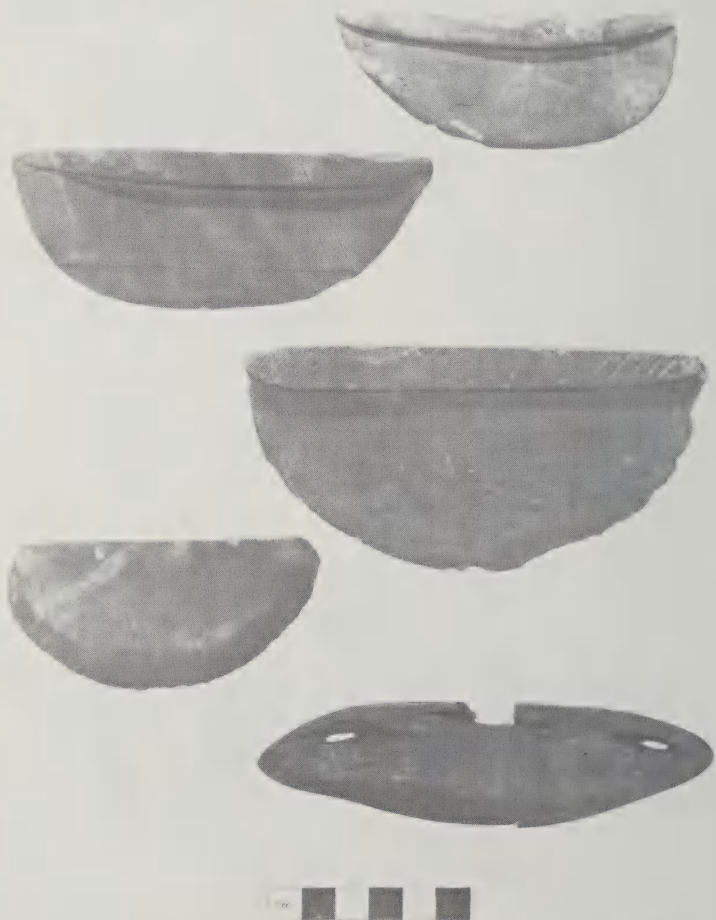


Plate 12. Semi-lunar knives of ground slate from Essex County, Massachusetts. Characteristic of the Brewerton Tradition of the Late Archaic period. The knife on the bottom was pierced for hafting to a wooden or bone handle.

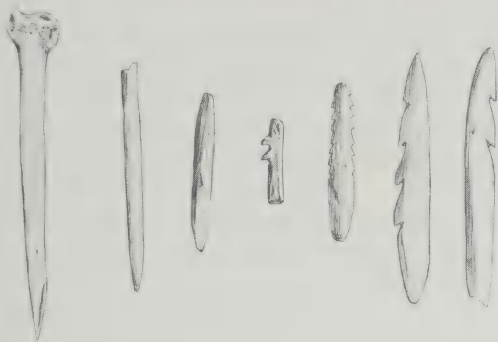


Figure 8. Late Archaic bone artifacts from Maine: Left to right: Awl; two bipointed cylinders, possibly parts of a composite fishhook; four barbed bone points. Not drawn to scale.

Transitional Stage:

About 3,000 years ago the Susquehanna tradition and small stemmed point tradition appear to merge gradually, with a mixture of traits from both occurring in the Orient phase of 1,000 – 500 B.C. This phase is characterized as a transitional stage between the Archaic and later Woodland periods. There was at this time a decreasing emphasis on mortuary ceremonialism and long distance trade, concurrent with population decline and cultural fragmentation. Early pottery, differing from the Middle Atlantic States and soapstone pots, occurring locally, appear at this time and are the prelude to the next period of New England history. *Plate 13.*



Plate 13. Soapstone vessels, the precursors to ceramic pottery in the northeast, occurred in the Transitional stage, during which time they were extensively traded to the south and west. This specimen from Lawrence, Massachusetts is from the collection of the Robert S. Peabody Foundation.



*Soapstone Maskette
from Essex, Massachusetts*

THE WOODLAND PERIOD

Early and Middle Woodland 500 B.C.-800 A.D.

Between 1,000 and 500 B.C., after the maximum climatic warming of the Late Archaic, New England's environment gradually cooled to its present conditions. Within the oak forest which covered much of the northeast, chestnut trees, previously established to the north, replaced hickory trees in southern New England as floral ranges adjusted to slightly cooled temperatures. Concurrent with this climatic change, but not necessarily the result of it, came a decrease in population and apparent cultural disintegration during the Transitional stage and Early Woodland period. By 1 A.D. a subsistence pattern of coastal settlements and extensive exploitation of shellfish had developed which would continue throughout the Woodland period.

The introduction of pottery, traditionally thought to be diagnostic of the Woodland period, is now known to have occurred during the Late Archaic. Ceramic technology developed independently in the southeast at about 2,000 B.C. and was present to a limited extent in New England during the Transitional stage. Later pottery of this area exhibited many regional variations on a generalized northeastern style.

In New England the Early and Middle Woodland periods are meagerly represented in the archaeological record. Where undisturbed sites do occur, they indicate a mixing of native traditions with others originating in the Ohio River valley. Artifact types and ceramic developments of these western cultures appear in the northeast as a result of trait dispersal, long distance trade and migration. Meadowwood points, triangular cache blades, drilled gorgets and birdstones are artifacts representative of the first influence of the highly ritualistic Adena culture of the Ohio Valley. *Plate 14.* The period exhibits evidence of extensive trade which followed the major river valleys of the northeast. New York cherts, Great Lakes copper, and Labrador chalcedony are imported into New England in quantity at this time. *Plate 15.* The characteristic pottery of the period is crude and grit tempered. Points native to New England are the Rossville type and other stemmed varieties, mostly of local material. Hunting of small game, especially the white-tailed deer, and fishing with nets and barbed spears is evidenced by remains in dated Woodland shell middens. Difficult to type lanceolate points predominate in parts of New England late in the Early Woodland period.

The following Middle Woodland period, only vaguely distinct from the Early Woodland, is characterized by continuing western influence and reliance on coastal food supplies. Adena artifacts such as block-ended tubular pipes, slate bars (possibly atlatl weights) and small stone

maskettes were introduced, as well as platform pipes and mica ornaments characteristic of the Hopewellian culture, successor to the Adena culture in the mid-west. *Plate 16, Plate 17*. The introduction of these artifacts may have been due to political and social disruption in the Ohio Valley which resulted in eastward migration of small Adena groups. The Jack's Reef corner notched point often appears mixed with previously established Woodland types. Triangular and pentagonal point forms, which predominated in the Late Woodland, were introduced. Barbed bone points and grooved net sinkers were still common in the shell middens.



Plate 14. A finely polished birdstone and double-grooved axe found in Wenham, Massachusetts. Early or Middle Woodland. Adena Artifacts.

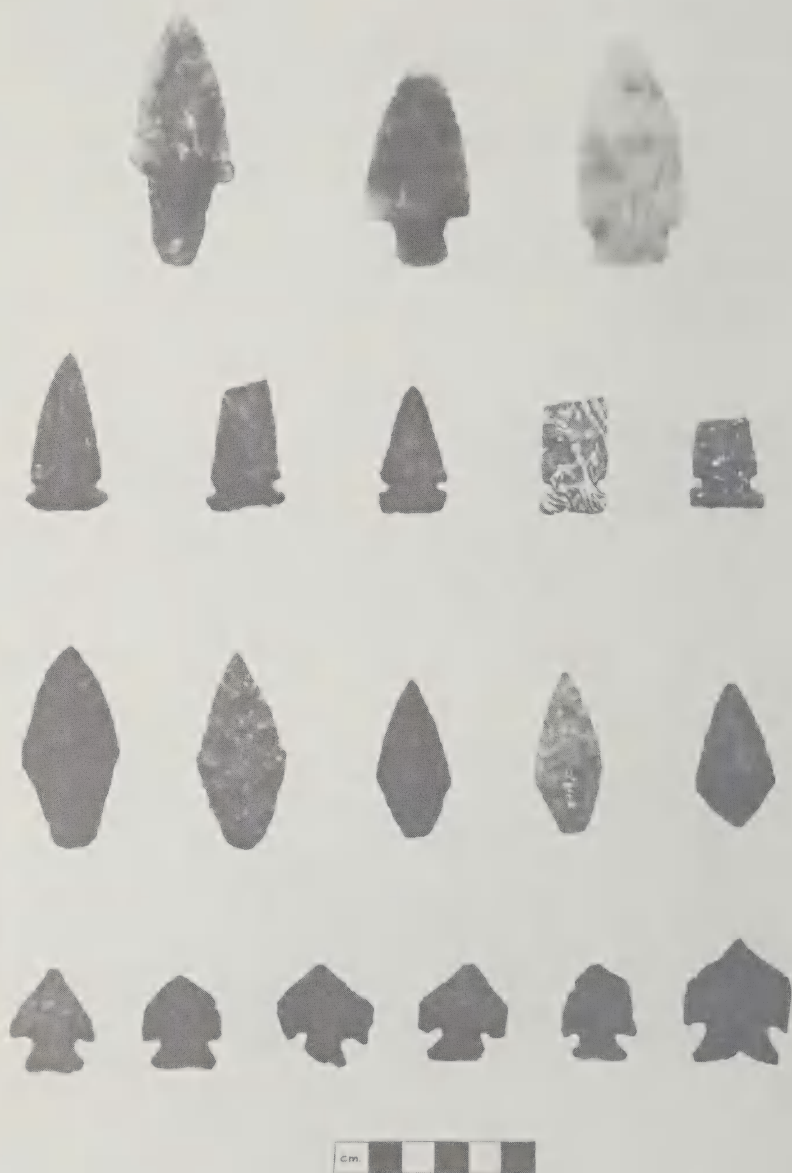


Plate 15. Early and Middle Woodland points from New England: Top row: Stemmed points of Labrador chalcedony, Second row: Meadowwood points, often made of New York State cherts, Third row: Rossville points, Bottom row: Jack's Reef Corner Notched points.

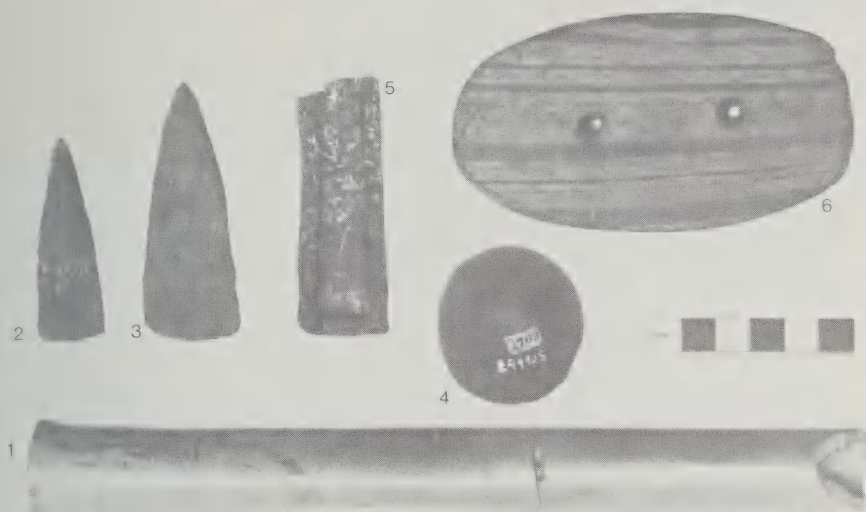


Plate 16. Early Woodland period artifacts showing Adena cultural influence: 1. Blockended tubular pipe from Weirs, New Hampshire, 2 and 3. Triangular blades, sometimes found in caches, from Saugus and Topsfield, Massachusetts, 4. Hemispherical stone from Danvers Center, Massachusetts, 5. Blockended tubular pipe fragment from Wenham, Massachusetts, 6. Drilled slate gorget from Essex, Massachusetts.

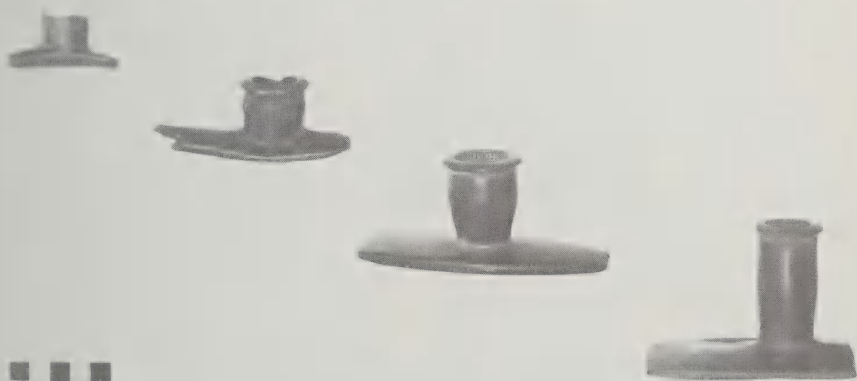


Plate 17. Platform pipes from Essex County, Massachusetts: From top to bottom: Ipswich, Annisquam, Wenham and Salem – showing Hopewellian cultural influence which arrived in New England during the Middle Woodland period. Occasionally graves of this period include platform pipes and other finely made mortuary offerings.



*Iroquoian Castellated
Pot from Revere Beach,
Massachusetts*

LATE WOODLAND

800 A.D. - European Contact

After 800 A.D. sites become larger and more frequent indicating a substantial increase in population. Coastal areas, particularly estuaries, are the most favored site locations, and extensive exploitation of shellfish led to rapid accumulation of middens. *Figure 9.*

The introduction of maize occurred during this period. On Martha's Vineyard evidence of corn was recovered from a Late Woodland hearth which produced a radiocarbon date of 1,160 A.D. This is the earliest known instance of the cultivation of corn in this region, although it was probably initially introduced sometime before this. It is likely that in New England corn was quickly and easily adapted by peoples already practicing some sort of incipient horticulture, but evidence for this is lacking. By the end of the Woodland period the list of cultigens included corn, beans, squash, pumpkins and tobacco.

The development and refinement of pottery continued with crushed shell tempering becoming prevalent, and the appearance of the decorative techniques of dentate and rocker stamping as well as cord and fabric impressing. The highly refined castellated pottery vessels of the Iroquoian culture occur sporadically in New England, and more commonly as an influence on native ceramic styles.

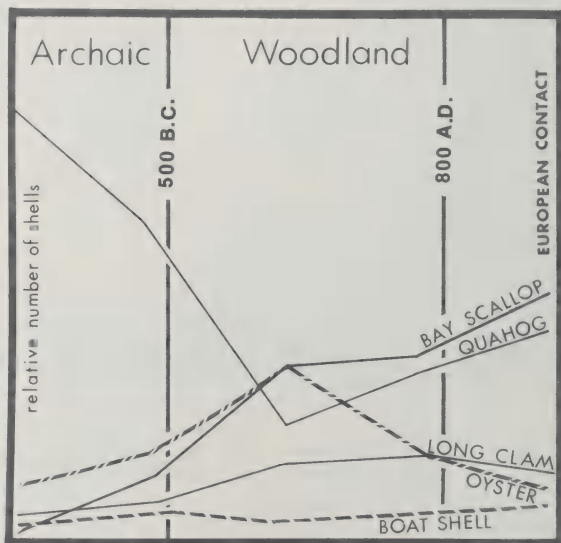


Figure 9. Graph illustrating the relative abundance of shellfish species found in middens at different periods of time on Martha's Vineyard. (Adapted from Ritchie 1969.)

Post molds in the habitation floors of some excavated sites of the period, particularly in New York, show an increasing complexity in the configuration of house forms. Oval and rectangular shapes are common as individual domiciles, groups of which are sometimes enclosed within palisade walls.

The sharply geometrical Levanna point is diagnostic of the period, and probably represents a true arrow point. The bow and arrow probably came into use prior to the Late Woodland, but it is not clear when. It was perhaps as early as the Late Archaic. *Plate 18.*

In contrast to the Early and Middle Woodland, the Late Woodland people enjoyed relative social stability. Agriculture and shellfish gathering led to a more sedentary way of life conducive to an increasing emphasis on various forms of ceremonialism. Effigy carvings, which have roots in the Late Archaic, continue into the Late Woodland. Themes involving bear, wolf, and deer heads, phalli and occasionally human likenesses occur. There is often little distinction between the phallus and bear, wolf, and deer motifs, generally occurring as pestles, which may indicate some form of fertility relationship.

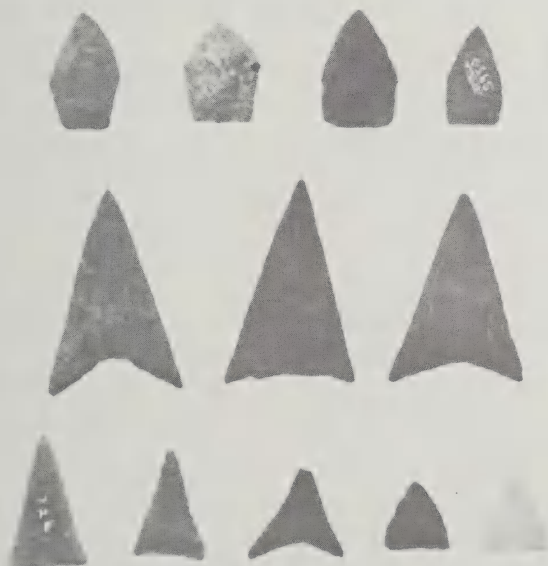


Plate 18. Late Woodland points: Top row: Jack's Reef pentagonal points, Bottom two rows: Levanna points.



Copper Kettle found in grave at Revere Beach, Massachusetts.

THE CONTACT PERIOD

"The country of Massachusetts . . . is the paradise of all these parts. For here . . . the sea coast as you pass, shews you all along large cornfields and great troupes of well proportioned peoples." Cap. John Smith - 1616

The Florentine explorer Giovanni da Verazzano, sailing under the French flag arrived at Narragansett Bay in 1524. His accounts of the Indians at Newport Harbor are some of the most detailed that date from the period of Early Contact, and give some indication of how the native people incorporated objects of European manufacture into their own material culture. Small bells and copper in the form of sheets or trinkets were the most valuable trade items Verazzano could offer. He also describes "plates of wrought copper, which they esteem more than gold." Archaeologically, copper ornaments from the Late Woodland period are not unknown; however, rarely do they occur in the abundance which Verazzano seems to describe. It is therefore most likely that these large objects were not of native origin, but the result of some previous trade with Europeans. Verazzano observed that Venetian glass beads were also highly valued but that iron or steel implements held little interest for the Indians. Samuel de Champlain reported stone axes still in use in 1605, with only occasional specimens of metal occurring. The apparent rejection of iron and steel tools by peoples unfamiliar with them that Verazzano observed seems unreasonable to those who are aware of the superiority of metal over stone. This phenomena, however, has also been observed in places such as New Guinea where an initial exposure to an unfamiliar tool also resulted in its rejection. The European tools required motor habits unfamiliar to the Indians, and only after they mastered these did a new tool become, in reality, superior to the traditional one. With increasing familiarity, steel axes soon became a favored trade item.

With the advent of actual colonization in New England, the formal, periodic contact of the explorer or fisherman changed to informal and continual contact with the colonist. The decimating, undiagnosed plague of 1616, as well as later smallpox epidemics, reduced the native Late Woodland population by 90 percent in some areas and left them socially disorganized. The vacuum left by the death of various sachems in New England caused the disruption and division of political power and attempts by the Indians to befriend the English for political ends. After colonization, the amount of European goods being utilized by the Indian greatly increased. *Plate 19, Plate 20.* A letter dated September 8, 1623 written by Governor Bradford gives some description of this quantity:

. . . not toys and trifles but good substantial comodities as kettels, hatchets and cloths of all sorts; yea the French do store them with Biskay Shalops, fitted both with sail and ores, with which they can either row or saile as well as we: also with peices, powder and shot, for fowling and other services . . . Also I know upon my own knowledge many of the Indians to be as well furnished with good kettels, both strong and of large size as many farmers in England.

With this substantial trade in kettles, indigenous pottery soon became obsolete and disappeared. Stone working also became a lost skill as arrows became tipped with iron and copper, and metal knives became readily available. The aboriginal metallurgical techniques of cold hammering and annealing were eventually expanded to include the melting of pewter and lead as well as the utilization and reworking of other metals, such as brass, silver and iron. *Figure 10.*

The traditional shell bead, known as a disc wampum, which had a distribution over almost the entire eastern part of the continent, was eventually replaced by a cylindrical or tubular variety in the historic period. Both forms were generally made from the shell of the hard shell clam or quahog which provided both white and blue beads depending upon which area of the shell was utilized.

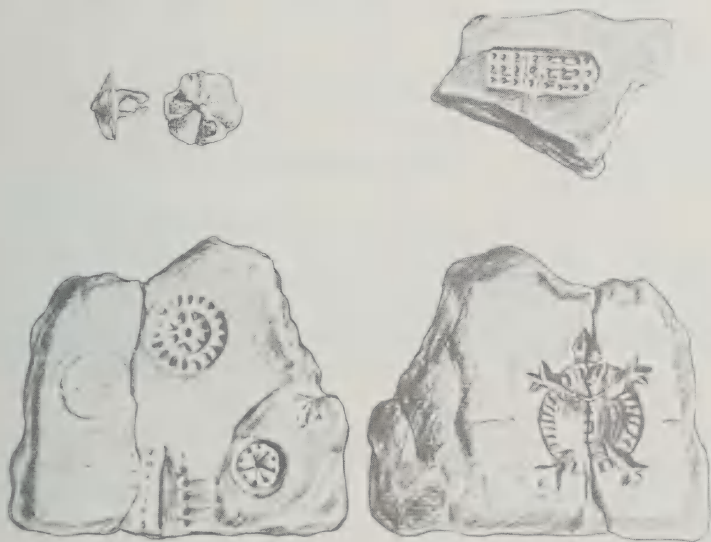


Figure 10. Button and Button Molds of the post-European Contact period: Top left: Pawtucket, Rhode Island, Top center: Deerfield, Massachusetts, Bottom left and Center: Natick, Massachusetts, obverse and reverse sides.

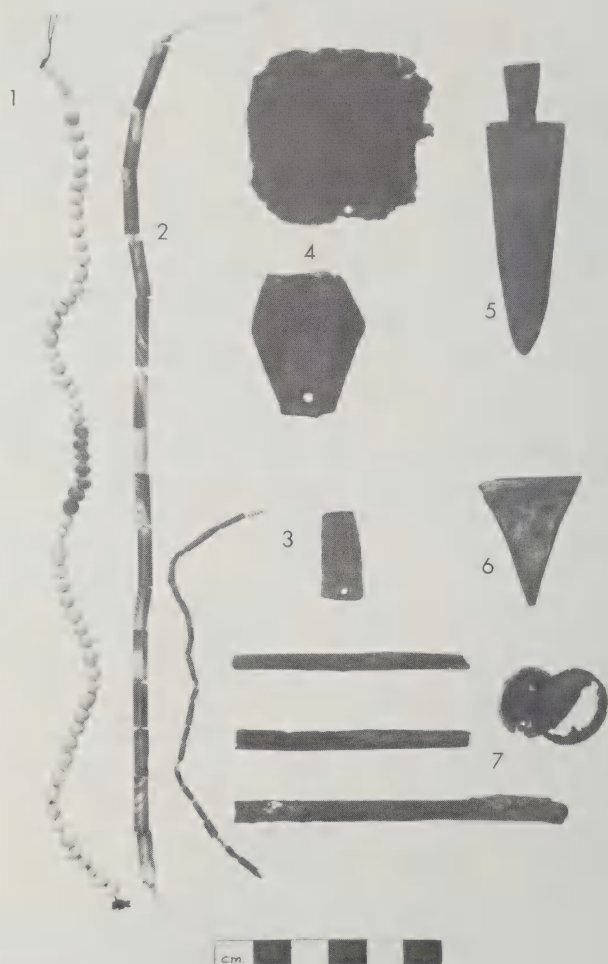


Plate 19. Ornaments and tools of Contact period: 1. Venetian glass beads from burial at Revere Beach, Massachusetts, 2. Tubular wampum of European manufacture, 3. Small rolled copper beads on twisted fiber cord and copper pendant from burial at Ipswich Beach, Massachusetts, 4. Sheet copper pendants from Ipswich, Massachusetts, 5. Iron arrow point from Newburyport, Massachusetts, 6. Copper arrow point from grave at Revere Beach, Massachusetts, courtesy of the Peabody Museum of Archaeology and Ethnology, Cambridge, 7. Rolled sheet copper tubes which were part of a bearskin pouch found in a grave at Bessom's Pasture, Marblehead, Massachusetts, and copper bell.

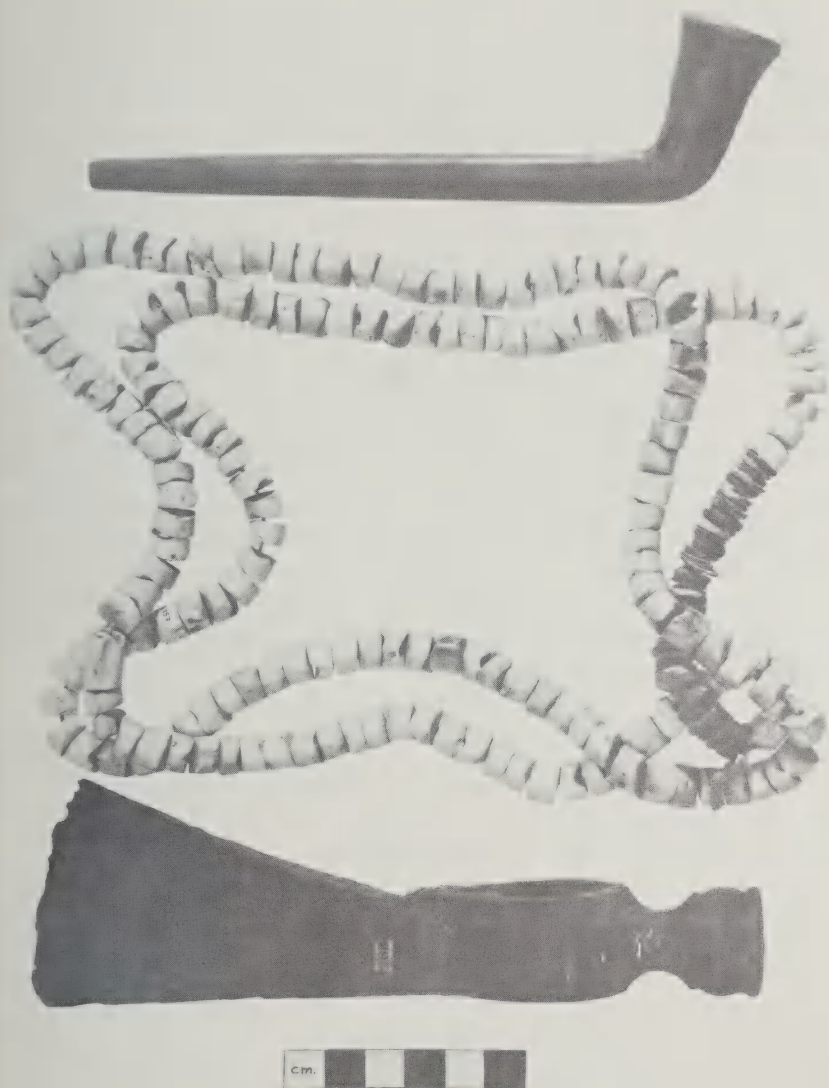


Plate 20. Artifacts of the Contact period: Polished stone pipe and two forms of disc wampum from burials at Revere Beach, Massachusetts. Tomahawk-pipe from Union Springs, New York.

The Dutch introduced tubular wampum to the English who in turn established it as a trade item with the Indians in New England in 1628. Earlier the Dutch had established tubular wampum as a medium of exchange among the Indians of the Hudson Valley where the blue beads were worth twice as much as the white. In 1648 they became legal tender in Massachusetts for exchanges up to the amount of 40 shillings. Eight white beads were valued at one penny and the purple were worth four. Wampum was usually measured by the fathom, and by reckoning 5 beads to an inch, one calculates about 360 beads to six feet or a fathom. It is difficult to comprehend the quantity of beads made by the Indians when one reads of transactions involving several hundred fathoms. The "counterfeiting" of wampum by Europeans is known to have occurred. It was done quite early by the Dutch and later by the English. John W. Cambell, born in 1746, manufactured wampum in New Jersey, supplying United States Indian agents and traders of the day. Wampum of European origin tended to be longer and much more uniform, and can be separated easily from that of Indian manufacture.

It is these objects of European origin or influence which frequently allow an archaeologist to determine whether a burial or site is Pre or Post Contact. Of course, there are many aspects of a non-material nature which were also adopted by the Indians after contact, but which leave no trace in the archaeological record.

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